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(54) **PLASMA PROPULSION SYSTEMS AND ASSOCIATED SYSTEMS AND METHODS**

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(57) **ABSTRACT**

The present technology is directed to plasma systems and associated methods, including propulsion systems for flight vehicles. A representative system includes a plurality of coils. The coils include a first coil positioned along a force axis, a second coil positioned along the force axis and spaced apart from the first coil, and a third coil that is magnetically shielded. A controller is operatively coupled to the coils and is configured to (a) increase energy to the first coil to generate a magnetic field in a portion of the plasma adjacent to the first coil, (b) decrease energy to the first coil and increase energy to the second coil to translate the resulting superposed magnetic field through the plasma to a position adjacent the second coil, and (c) transfer energy from the second coil to the third coil and decrease energy to the second coil to reduce the magnetic field in the plasma.